

REMARKS

Claims 1-18 are pending in this application.

By this Amendment, the title and the Abstract are amended, as the Examiner requested. The specification is amended to obviate informalities in the subtitles, as the Examiner suggested.

The specification is also amended to insert the numeral "24" based on the originally filed drawings in, for example, Fig. 1, as the Examiner requested. No new matter is added.

Claim 1 is amended to recite additional features disclosed in the specification at, for example, page 11, lines 1-20. Claims 2 and 15 are amended to change the phrase "the reference partition" to "the reference space," based on the Examiner's suggestions. Claims 15 and 16 are amended, as the Examiner suggested. Claims 2-12 are similarly amended.

Claim 7 is amended to depend from claim 2, instead of claim 1, such that the term "reference grid" is provided proper antecedent basis. New dependent claim 18 is added to recite the subject matter recited in claim 10, but to depend from claim 9. Claim 16 is amended to incorporate the features recited in claim 3 to conform to U.S. practice.

Reconsideration of the application is respectfully requested.

The Office Action objects to the drawings. The specification is amended to provide description to reference number "24," as the Examiner requested. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

The Office Action objects to the Abstract. The Abstract is amended to overcome this objection. Accordingly, withdrawal of the objection to the Abstract is respectfully requested.

The Office Action objects to the specification. The specification is amended to change the subtitles, as the Examiner suggested. Accordingly, withdrawal of the objection to the specification is respectfully requested.

The Office Action objects to claims 15 and 16. Claims 15 and 16 are amended, as the Examiner suggested, to overcome this objection. Accordingly, withdrawal of the objection to claims 15 and 16 is respectfully requested.

The Office Action rejects claims 1-17 under 35 U.S.C. §112, second paragraph. Claims 1, 2, 7 and 15 are amended for clarity, as outlined above. Accordingly, withdrawal of the rejection of claims 1-17 under 35 U.S.C. §112, second paragraph is respectfully requested.

The Office Action rejects claims 1-17 under 35 U.S.C. §103(a) over U.S. Patent No. 5,960,081 to Vynne et al. ("Vynne") in view of U.S. Patent No. 6,845,130 to Han et al. ("Han"). This rejection is respectfully traversed.

I. Vynne Does Not Disclose a Reference Space Divided Into a Plurality of Predetermined Portions

The Office Action asserts that Vynne discloses "marking the coordinates of the selected motion vector (\vec{V}) in a reference space divided into a plurality of predetermined portions." However, Vynne does not disclose this feature, because Vynne does not disclose or suggest a reference space divided into a plurality of predetermined portions.

Vynne discloses a method of watermarking a video signal by applying a watermarking function to motion vectors calculated by estimation of movement between images of the video signal, the method comprising the following steps:

- applying the watermarking function to at least some of the calculated motion vectors; and
- generating the watermarked video signal by compensating movement with the aid of the watermarked motion vectors (see Abstract and col. 7, line 43 - col. 8, line 9), for instance by incrementing or decrementing this coordinate. Vynne does not disclose that the reference space comprises a plurality of predetermined portions.

Under certain circumstances, if a predetermined portion is a portion defined by two parallel lines and comprising only two values, for instance $x = 0$ and $x = 1$, in order to apply the watermarking function, the method further comprises the following steps:

- marking the coordinates of the selected motion vector (\vec{V}) in a reference space divided into a plurality of predetermined portions;
- defining two zones Z_0 and Z_1 in each portion (two parallel rectangles comprising respectively the coordinate $x = 0$ or $x = 1$).
- assigning a binary value to each of the two zones (the value of the coordinate they comprise); and
- if necessary, modifying the coordinates of the selected motion vector so that it is in the zone of the portion to which it belongs, of binary value which corresponds to the bit of the marking key with which the selected motion vector is associated.

However, it is never mentioned in Vynne that a predetermined portion as defined above is selected and that the method is applied in that way. Thus, Vynne does not disclose "marking the coordinates of the selected motion vector (\vec{V}) in a reference space divided into a plurality of predetermined portions."

II. One of Ordinary Skill Would Not Have Been Motivated to Combine Vynne with Han

The Office Action recognizes that Vynne does not disclose or suggest "defining two complementary zones Z_0 and Z_1 in each portion, one of the two zones being situated inside the other one," as recited in claim 1; but asserts that Han discloses this feature. However, one of ordinary skill would not have been motivated to combine Vynne with Han.

Han discloses an encoding method for reducing motion video data sizes using a multitude of variable-sized data blocks (see Abstract) and does not disclose a method of watermarking a video signal.

Han addresses the problem of bad image resolution in the field of video data encoding (col. 1, lines 44-57). It does not address the problem of watermarking a video signal that improves invisibility.

The Office Action asserts that Han discloses two blocks 16, 18, one of them being situated inside the other (see Fig. 1). However, in Han, 16 is a particular pixel and 18 is a zone inside a frame of the video in which this pixel is searched (see col. 3, lines 7-19). It is not disclosed that a value is assigned to one of these zones.

Thus, In Han, the reference space in which the two "blocks" are situated according to the Examiner is not the reference space of the motion vectors as disclosed in the method of claim 1, but a frame of a video.

In view of the above, one of ordinary skill in the art would not have been motivated to combine Vynne with Han.

III. The Asserted Combination of Vynne and Han Does Not Disclose or Suggest "Two Complementary Zones" Recited in Claim 1

Additionally, even if combined, Vynne and Han do not disclose or suggest "defining two complementary zones Z_0 and Z_1 in each portion, one of the two zones being situated inside the other one," as recited in claim 1.

As discussed above, Han's two blocks do not disclose or suggest the two compensatory zones recited in claim 1. Thus, Han does not supply the subject matter lacking in Vynne.

In particular, Han would not have motivated one of ordinary skill to define two zones, one being inside the other. Han does not disclose two complementary zones in a reference space in which motion vectors are defined.

Furthermore, for the sake of argument, even if one of ordinary skill would have transposed the zones 16, 18 into the reference space in which the vectors are defined, which is

highly unlikely, the rule of Vynne could not be applied to such zones, and one of ordinary skill would not have been able to adapt the method of Vynne to such zones, no indications to help him for this modification figuring in Han or in Vynne.

Thus, even if combined, Vynne and Han do not disclose or suggest "defining two complementary zones Z_0 and Z_1 in each portion, one of the two zones being situated inside the other one," as recited in claim 1.

IV. Conclusion

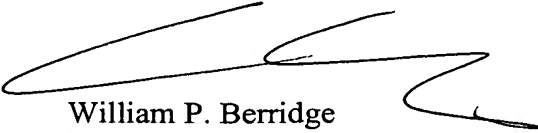
For at least the above reasons, withdrawal of the rejection of claims 1-17 under 35 U.S.C. §103(a) is respectfully requested.

Claim 18 is patentable at least in view of the patentability of claim 1, from which it depends, as well as for additional features it recites.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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